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Appl. No. 09/842,467
Office Action mailed September 2, 2004
Amendment transmitted December 1, 2004

No. 9405 P. 10

Attorney Docket 10541/276

APPENDIX A

I hereby certify that this correspondence is being sent via facsimile to 1-703-892-9306 at the United States Patent & Trademark Office,

on December 1, 2004
Date of Deposit

David W. Okey, Regis. No. 42,959

Name of applicant, assignee or
Registered Representative

David W. Okey

Signature

Dec. 1, 2004
Date of Signature

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Our Case No. 10541/276

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Walter Mayer

Serial No. 09/842,467

Filing Date: April 26, 2001

For: Automatic Procedure for Locating
Actuator Addresses on a Bus
System

Examiner Ronald D. Hartmann, Jr.

Group Art Unit No. 2121

STATEMENT OF PRIOR INVENTION
UNDER 37 C.F.R. § 1.131

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

I, the undersigned, with address and citizenship as stated below, declare of my own knowledge:

1. I declare that I made and conceived the invention described and claimed in United States Patent Application Number 09/842,467, filed in the United States of America on April 26, 2001, entitled Automatic Procedure for Locating Actuator Addresses on a Bus System.

Appl. No. 09/842,467

Attorney Docket 10541/276
Visteon V200-0687

2. I declare that I made and conceived this invention while employed by Visteon Deutschland GmbH ("Visteon"), that the invention is related to the work I am employed to perform, and that the invention was made within the scope of my employment duties. The invention was made and conceived by me prior to April 18, 2001, as disclosed in a four-page Invention Disclosure, (four pages total, attached and with dates redacted) which was signed and dated and witnessed in a letter to our outside patent counsel prior to April 18, 2001 (one additional page). I further declare that my work concerned actuators and their placement on actuator busses, and that I was in full possession of the invention, as described in the attached Invention Disclosure, prior to April 18, 2001.

3. As stated in the invention disclosure, my idea was to avoid having to use separate part numbers for each position of actuator. See Invention Disclosure p. 1, section 2. I also noted that one idea was to use the maximum possible movement of the actuator to determine which actuator it was. See p. 2, Section 4. I also stated in the disclosure that during start-up, the actuators can use a special command to determine one or more end stops, and compare the travel to a look-up table in order to determine which actuator it is. My disclosure also stated that maximum movement of an actuator could be determined using incremental feedback, the time of movement, current/voltage measurements, the step count of a stepper motor, or absolute feedback measurements. See section 4, pp. 2-3, bottom portion.


4. I declare that the invention was made during working hours and with the use of facilities, equipment, materials, funds, information and services of Visteon Deutschland GmbH at Visteon's research laboratories, at Weinsbergstraße 195, D-50825 Köln, Germany.

5. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of

Appl. No. 09/842,467

Attorney Docket 10541/276
Visteon V200-0687

Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

 30. 11. 2004

(date)
Walter Mayer
Kölnstrasse 52
D-50321 Brühl
Germany
Citizen of Germany

Attachments:
Invention Disclosure
Letter to Outside Counsel



OLID HOME

FGTI MAIN PAGE

Current owner company. Change?

Visteon

DIRECTORY

FGTI

HUB

Related Links: [View Invention Disclosure](#) | [Assign/Evaluate Disclosure](#) | [View Invention Banking](#) | [Email Disclosure](#)

Online Invention Disclosure: View Invention Disclosure

Inv. Discl. Docket No:

V200-0687

Creation Date:

Approval to submit was given by:

WMAYER2: [REDACTED]

Section 1: INVENTION DESCRIPTION

Title of Invention:

AUTOMATIC PROCEDURE TO DETERMINE THE ADDRESS FOR AN ACTUATOR AT A BUSSYSTEM

Patent Evaluation Committee:

SVCCS

CPSC Code:

12.00.00

Originating Country Code:

DE

Related Disclosure(s):

None

Section 2: PROBLEM & SOLUTION

Description or Comments: If actuators controller via a bus system instead of direct control lines the actuator need a address. This address must be programmed in each actuator. So you must have seperate spare part no. for service or the service personal needs equipment to programm the spare parts. To avoid this the maximum way of movement (if we have a incremental feedback) or the position of an endstop of each panel will be designed different. So with a special command or during battery reconnection the actuator can check the maximum movement and/or the position of the endstops to determin which address the actuator needs. This will prevent costs in stock (different spare parts) or costs for special programmer for the service stations and also avoid errors in ordering the wrong spare part or programming the wrong address to the actuator.

Attachment:

See Section:9 ATTACHMENTS

Section 3: PRIOR ART

Description or Comments: One other method to distribute a address on different nodes ist with a ring bus system. The master sends a address 1 to the first node. The node N sends the address N+1 to the following node. The last node send the address N+1 back to the master. So the master can determin whether all nodes active and address distribution was successful. This method need a busline input and a seperate busline output. If there is a wiring error the addresses will be distributed in the wrong way.

Attachment:

See Section:9 ATTACHMENTS

Section 4: NEW TECHNOLOGY

Description or Comments:

Attachment:

See Section:9 ATTACHMENTS

Section 5: DETAILED DESCRIPTION

Description or Comments: The idea is to use the maximum possible movement of the actuator to determin which actuator it is. If absolute encoder at the actuator, it is also possible to use the endposition to determin which actuator it is. In a climate control system for example are several panels to control the airflow. These panels could be driven by the same type ob bus actuator. State of art: 1. Program different addresses in the actuators during actuator production. This generates different part no. for every panel actuator. 2. Program different addresses in the production of the airhandling box and at service stations. This generates a lot of costs for programming tools at service stations. Additional the service worker could make errors in programming the address. 3. Use a ring bus system. Every node sends the N+1 address to the next node. This needs at least 4 pins (plus, minus, data-in, data-out) in stead of 3 pins (plus, minus, data). So the system costs are higher. Solution for automatic distribution of actuator address with a 3 pin connector bus: The movement of the panels is designed so, that every pannel has a differen maximum movement. During start up oder with a special command, the motors move from one end stop to the other end stop and determin the maximum movement. Every motor can compare this value with a table and find out, which address it has. Some of motors have an absolute feed back of the output. Here the method could be the same as above or done in the following way: The actuators are arranged so, that the end positions is at a different absolute position of the motor drive. During start up oder with a special command, the motors move

to one or both end stops. Every motor can compare this value(s) with a table and find out, which address it has. If both end stops are used additional a error check can be done. Claims: 1. To use maximum movement of an actuator to determin the address via a lookup table - use incremental feedback to determin the maximum movement - use the time for movement to determin the maximum movement - use the time and current/voltage to determin the maximum movement of the actuator - use the step count of a stepper motor until stall condition is detected to determin the maximum movement - use absolute feedback to determin the maximum movement - if feedback of some special positions is accessible these positions can be used instead of end stop positions 2. To use one or both end stop positions of an actuator with absolute feedback to determin the address via a lookup table - use absolute feedback to determin the maximum movement - if both end stop positions are checked an additional error signal can be generated - if feedback of some special positions is accessible these positions can be used instead of end stop positions 3. The lookup table is stored in the actuator ROM 4. The lookup table is stored in the master controller and send with the start up command to the actuators 5. If the address space is big enough, the address is generated by a calculation:

$$(M_{act} - M_{min}) * A_{max} \text{ address} := \text{trunc}(\frac{\dots}{\dots})$$

) Mmax-Mmin address = address of the actuator Mmax = max. possible movement of all actuators Mmin = min. possible movement of all actuators Mact = max. possible movement of an the special actuator which address is to determin Amax = max. no of possible addresses

Attachment:

See Section:9 ATTACHMENTS

Section 6: DATES

Record(s) of Completion: [REDACTED]

Date of Completion: [REDACTED]

First Production Use:
[Model and Date]

Climate Airhandling: [REDACTED]

Section 7: CATEGORY QUESTIONS

Invention Category:

Category Questions do not exist or not answered.

&

Section 8: MISCELLANEOUS ITEMS

Is it a Government Contract?:

No

If yes, Government Contract Number:

Identify a government agreement, partnership, consortium, or other company involved with conception or first building of the invention:

If disclosed to non-Company personnel, identify recipient and date:

Section 9: ATTACHMENTS

There are no file attachments for this invention disclosure

Section 10: INVENTORSHIPCDS or Other Id:

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S

Employment Status:

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Owner: DPORCAB | Version 1.1 | Last Updated: [REDACTED]

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See the possibilities™

Re: Invention Disclosure: V200-0687
Title: AUTOMATIC PROCEDURE TO DETERMINE THE ADDRESS
FOR AN ACTUATOR AT A BUSSYSTEM

Dear Mr. Oberholtzer:

The subject disclosure is enclosed for processing. Please proceed to prepare a patent application based on the above invention disclosure according to Visteon Global Technologies' procedures, and file prior to [REDACTED]. The disclosure has been evaluated for filing and therefore it is not necessary to prepare a pre-application memorandum. Please note that the application should be assigned to Visteon Global Technologies, Inc.

The VGTI Lawyer responsible for this application is Larry Shelton, 313-755-9107. All communication regarding the application should be directed to the responsible attorney and reference the above disclosure number.

Very truly yours,

Brenda Garrett

Brenda Garrett
Administrative Assistant

Enc.

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